Remarks

Favorable reconsideration of this application is requested in view of the following remarks. For the reasons set forth below, Applicant respectfully submits that the claimed invention is allowable over the cited references.

The final Office Action dated June 23, 2003, indicated that claims 1, 2, 4, 7-9 and 24-37 are rejected under 35 U.S.C. § 112(2); claim 1 is rejected under 35 U.S.C. § 102(b) in view of *Barron et al.* (U.S. Patent No. 5,357,567); claim 1 is rejected under 35 U.S.C. § 103(a) over *McCaslin* (U.S. Patent No. 5,668,794) in view of *Barron*; claim 2 is rejected under 35 U.S.C. § 103(a) over *Barron* in view of *Chen et al.* (U.S. Patent No. 5,075,687); claim 4 is rejected under 35 U.S.C. § 103(a) over *Barron* in view of *Chen et al.* and further in view of *Teitler et al.* (U.S. Patent No. 5,722,086); claims 7-9 and 24-34 are rejected under 35 U.S.C. § 103(a) over *Barron* in view of *Teitler*; claims 24, 35 and 36 are rejected under 35 U.S.C. § 103(a) over *McCaslin* in view of *Teitler*.

With respect to the Section 112(2) rejection regarding the term "duplex," Applicant respectfully traverses as the claims are not indefinite. Applicant's Specification (including the claims) uses the term "duplex" in the same general manner as has been explained in the Office Action, by the McNamara reference and a myriad of other well-known sources. It appears that the Examiner has interpreted the Specification erroneously. First, it should be pointed out that nowhere does the Specification define the term "duplex" in one manner or another; therefore, the law presumes that claim terms take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art. *See,* M.P.E.P. § 706.03(d), *Intellectual Property Development v. UA-Columbia Cablevision of Westchester,* Fed. Cir., No. 02-1248, July 21, 2003 (the district court should look first to dictionary definitions of the claim term "high frequency" before consulting a patent's written description or the prosecution history).

Second, for each use of the term "duplex" as cited by the Office Action, the term is used as an adjective before the word "state" and is used in connection with a specific example embodiment that has been described by way of a "state table" (as opposed to a flow chart). Thus, the assigned names of various states in which the programmed processor operates include, for example, RX-state (Receive-state) 62, TX-state (Transmit-state) 64 and full-duplex state 66. The rejection appears to be based on the mere fact that the Specification uses an example embodiment for a programmed

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processor that has a specific example operation (in connection with a two-way communication) and, for the purposes of describing the operation, the term "full-duplex state 66" is used to describe this specific example operation. Carrying out the "full-duplex" interpretation applied in the Office Action to RX-state 62, the Specification would be objected to because the programmed processor would not even be permitted exit from a receive-signal mode. Moreover, in connection with each use of this term (as cited in the Office Action), each of the applicable "duplex states" involves simultaneous two-way communication. There is no inconsistency whatsoever between the claims and the detailed description, and the Examiner's definition of the term is consistent, reasonable and therefore evidencing that the scope of the claims would be reasonably ascertainable by those skilled in the art and, therefore, not indefinite under 35 U.S.C. § 112(2). *See*, M.P.E.P. § 2173(a).

With respect to paragraph No.3 at page 3 of the Office Action, the rationale alleges erroneously that claims 2, 7, 24, 26-29 and 32-37 fail to comply with Section 112(2) because various forms of "duplex" are used to describe operation, communication, states and substates and because "[T]he invention as disclosed operates in this way only under certain conditions." Applicant submits that this rationale is erroneous, illogical and directly contrary to the M.P.E.P. First, the patent laws (including Section 112) indicated that the invention is "claimed" and that supporting example embodiments are to be "disclosed" as support for the invention as claimed. Second, except under rare conditions (not present here), the patent laws prohibit an interpretation of claims in a manner that would be limited to the disclosed example embodiments. Third and consistent with the previous point, M.P.E.P. § 2173(a) requires that such claim terms be given their broadest, reasonable meaning. Finally, the meaning applied by the Examiner in this paragraph No.3 of the Office Action, again, is evidence that the term is consistent and reasonable and therefore showing that the scope of the claims would be reasonably ascertainable by those skilled in the art and, therefore, not indefinite under 35 U.S.C. § 112(2).

Accordingly, because the term "duplex" (as used in the rejected claims) carries its ordinary meaning and is neither indefinite nor inconsistent with the example embodiments of the detailed description, these claims satisfy the requirements of 35 U.S.C. § 112(2). Applicant therefore requests that the rejections be withdrawn.

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Applicant respectfully traverses the Section 102(b) rejection of claim 1 in view of the '567 reference because the Office Action fails to present correspondence between the '567 reference and each limitation of the claimed invention. The claimed invention is directed to a portable handset speakerphone that, among other important limitations, is directed to a microprocessor alternately receiving speech signals in the respective speech paths, determining peak volume levels in both paths, and adjusting the gain levels in both these paths in response to the peak volume levels (*see, e.g.*, claim 1). In contrast, the '567 reference is directed to a speakerphone in which speech flows in only one direction at a time. As discussed further below, the entire purpose of the '567 reference is directed to switching between transmit mode and receive mode. Therefore, the '567 reference is directed to a speakerphone in which speech signals cannot be processed by alternately examining the transmit and receive speech paths; this conclusion necessarily follows because only one of the transmit and receive speech paths is active at a time.

The Section 102(b) rejection of claim 1 is based on an erroneous interpretation of the '567 reference's speech-signal evaluation "iterative" process. As described in connection with Figure 9 at columns 8 and 9, the '567 reference explains its iterative process as providing an estimation of speech in one of the transmit and receive paths at a time. At column 10 (lines 6-16), the '567 reference summarizes how this iterative calculation (based on equation No. 1) is advantageous. Thus, the '567 references states in pertinent part:

> Eq. 1 shows that if receive channel speech signal amplitude E.sub.R exceeds transmit channel speech signal amplitude E.sub.T, factors in the term containing S become negative and transmit gain G.sub.T begins to decrease. Transmit gain G.sub.T decreases nonlinearly with time such that rapid switching of the transmit channel to receive and vice versa, or channel turn-around, occurs. Channel turn-around is more rapid when high speech levels from a second party follow low speech levels from a first party than when low speech levels from a second party follow high speech levels from a first party.

Further summarizing the overall detailed description, the '567 reference explains that its purpose is to provide "half duplex operation" on a communication system that has made available full-duplex communication channels. At column 10 (lines 67 *et seq.*), the '567 reference states in pertinent part:

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Thus, a channel switching method and apparatus for emulating half duplex operation over full-duplex communication channels have been described which overcome specific problems and accomplish certain advantages relative to prior art methods and mechanisms. The improvements over known technology are significant.

With a proper understanding of the speakerphone teachings of the '567 reference, the afore-discussed limitations of claim 1 of the instant application should be better appreciated. These limitations are directed to a microprocessor that "alternately" receives speech signals in the respective speech paths" and processes these speech signals, as claimed. The '567 reference teachings (regarding an iterative process) plainly do not correspond to the above claim-1 limitations involving "alternately receiving the signals …. " Thus, the Office Action has not provided prior-art correspondence to the above-described claim limitations; the Section 102(b) rejection is therefore improper and should be withdrawn.

Moreover, Applicant submits that the Section 102(b) rejection is improper because the evidence cited in support of the rejection has not been completely disclosed to Applicant. The '567 reference further describes the operation of its preferred embodiment through the use of an appendix that is attached and forms part of the Specification. As indicated at column 10, lines 47-50, the '567 reference identifies this portion of the disclosure as "Appendix A." Based on the above discussion, Applicant submits that a review of this "Appendix A" would further corroborate Applicant's contentions.

Accordingly, Applicant further traverses each of the prior art rejections because the Examiner did not comply with the patent statute and other federally-mandated regulations and should not have attempted to maintain the prior art rejections on this partial disclosure of the '567 reference. Section 132 of Title 35 of the U.S. Code explains that whenever any claim for a patent is rejected, the Applicant shall be notified of the rejection along with a statement of the reasons for such rejection, "together with such information and references as may be useful in judging of the propriety of continuing the prosecution of his application." By presenting only a portion of the '567 reference (without Appendix A), Applicant submits that the instant rejection does not comply with 35 U.S.C. § 132. Other federally-mandated regulations impose a similar degree of

fairness. For instance, in connection with Applicant's submission of a foreign prior art reference, the Patent Office would demand that any available or necessary English translation be included so that the value of the citations may be readily determined by persons inspecting the patent files and by the examiner (e.g., M.P.E.P. § 2205). Similarly, the Federal Rules of Evidence state that an adverse party can require the party introducing a writing to introduce other portions or the entirety of the writing so that the complete context can be dealt with in fairness (e.g., FRE 106). The purpose of the patent statute and these federally-mandated regulations is to provide all interested parties a complete opportunity to review and address the facts at issue. In this instance, basing the rejections on the '567 reference (with such an interpretation) highlights the need for compliance with the patent statute and these federally-mandated regulations.

Without the full text of the '567 reference Applicant submits that the rejections are improper and requests that they be withdrawn.

Applicant traverses the other prior-art rejections (under Sections 102 and 103) because each of these rejections similarly relies on this improper interpretation as well as a partial reading of the '567 reference. For example, the §103 rejection over *McCaslin* (U.S. Patent No. 5,668,794) in view of the '567 reference relies on the misinterpretation that the '567 reference teaches Applicant's claimed invention including the elements in connection with the microprocessor (alternately receiving speech signals in the respective speech paths, determining peak volume levels in both paths, and adjusting the gain levels in both these paths in response to the peak volume levels). Except for the rejection of claims 24, 35 and 36 (*McCaslin* in view of *Teitler*), each of the other Section 103 rejections is based on this flawed interpretation of the '567 reference; thus, each such rejection is improper.

Applicant further traverses the rejection under Section 103 over the '567 reference in view of *Teitler*. Among other problems with the interpretation of this prior art, to the extent that the inherency assertion at page 14 of the Office Action can be understood and/or is relevant, Applicant respectfully traverses the assertion that the '567 reference teaches continuous variation of output levels while both channels are operating simultaneously as well as the assertion that the '567 reference teaches full-duplex as contemplated by Applicant's claimed invention. As explained above, the '567 reference

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at best teaches simulating half-duplex communication. While certainly a creative manipulation of wording, it is untenable that the skilled artisan would interpret the '567 reference in a manner that would directly contradict that which the '567 reference expressly teaches.

With regard to the Section 103 rejection of claim 1 over the '794 *McCaslin* reference in view of the '567 *Barron* reference, Applicant further traverses because: the asserted modification has been neither explained nor evidenced; and the proposed modification would undermine the purpose of the '794 reference. The rationale provided for the asserted modification has been neither explained nor evidenced; rather, the Office Action simply states that the "microprocessor, memories and algorithm storage taught by Barron" can be applied to the echo suppressor taught by *McCaslin*; the purpose being to implement "the echo suppressor in a physical platform."

The proposed modification would undermine the purpose of the relied-upon embodiment of the '794 reference. This embodiment of the '794 reference is directed to a full-duplex system and avoiding the use of an adaptive echo-suppressing filter due to the expense of implementation. *See*, Col. 3, lines 35-37 and 40 *et seq*. The proposed modification would result in the expensive programmed '567 processor (DSP56001), as well as the '567 memory circuit and its algorithm storage being inserted into the heart of the '794 system, with this new half-duplex-switching algorithm destroying the full-duplex purpose of the '794 reference. Moreover, the '794 reference teaches the utilization of the algorithm described at column 12, line 64 through column 13, line 14, with discrete circuitry (without a processor) being used to address the high speed data processing required to suppress the echo. Inserting the programmed '567 processor (DSP56001), as well as the '567 memory circuit and its algorithm storage into the heart of the '794 system would result in a much more expensive '794 system as well as replacing this '794 circuitry and algorithm. To suggest that one skilled in the art would modify the '794 reference in this manner is untenable and improper. These references have nothing in common and the asserted combination would clearly frustrate both the purpose and operation of the '794 reference. *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984) (A §103 rejection cannot be maintained when the asserted modification

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undermines the purpose *or* operation of the main reference.). Applicant respectfully requests that the rejection be removed.

With respect to the rejection of claim 36 over *McCaslin* in view of *Teitler*, this claim has been cancelled. The rejection is therefore moot.

With respect to the rejection of claims 24 and 35 over the '794 *McCaslin* reference in view of *Teitler*, Applicant respectfully traverses because the asserted prior art does not correspond to the claimed invention. As asserted, the '794 reference is misinterpreted as having an echo suppressor 414 that must alternately receive speech signals, respectively, in transmit and receive paths. Rather, the echo suppressor 414 of figure 19 of the '794 reference is shown and described in enlarged form via figure 20. In connection with figure 20, the '794 reference describes and illustrates the far end and near end portions of the echo suppressor 414 as being implemented in discrete paths and without any alternate signal receiving or other alternate processing. Thus, in view of this misinterpretation being applicable to each of claims 24 and 35 (as well as their dependent claims), Applicant requests that this rejection also be removed.
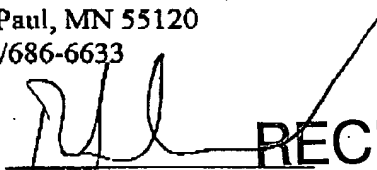
In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is encouraged to contact the undersigned at (651) 686-6633.

Respectfully submitted,

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Dated: August 14, 2003

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